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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,055	11/29/2001	Dominik Zeiter	PHCH000025 US	5505

24737 7590 11/17/2003

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EXAMINER

SHAPIRO, LEONID

ART UNIT PAPER NUMBER

2673

DATE MAILED: 11/17/2003

Handwritten number 5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,055

Applicant(s)

ZEITER ET AL.

Examiner

Leonid Shapiro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

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- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.

- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito (US Patent No. 6,426,594 B1) in view of Tanaka et al. (US Patent No. 5,760,757) and Kalt (US Patent No. 6,317,108 B1).

As to claims 1 and 5, Ito teaches a display device which includes a driver circuit (See Fig. 3, items 31-35, in description See Col. 20, Lines 11-15) and display with a plurality of rows and columns (See Fig. 5, items X1-Xm, Y1-Yn, in description See Col. 14, Lines 2-10), where a number p indicates the number of simultaneously driven rows (See Figs. 1,5, in description See Col. 14, Lines 48-52), where the rows and columns can be driven by means of voltage values of the equally high voltages (See Fig. 6, items V2,-V2, in description See Col. 5, Lines 1-6 and Col. 15, Lines 7-20), the number p of simultaneously driven rows can be selected in dependence on display size to be driven: four lines for 120 scanning electrodes and three voltage levels in total (See Fig. 1,5-6, in description See Col. 14, Lines 48-52 and Col. 16, Lines 9, 22-23) and seven lines for 203 scanning electrodes and five voltage levels in total (See Fig. 7-8, in description See Col. 22, Lines 22-26, Col. 25, Lines 23-26 and Col. 26, Lines 1-4).

Ito does not show the driver circuit includes voltage driver stages (buffers) that can be switched off in dependence on the optimal number p to be simultaneously driven.

Tanaka et al. teaches selectively switch on and off buffer transistors (See Fig. 10, items 108A-108D, in description See col. 2, lines 45-65).

It would have been obvious to one of ordinary skill in the art at the time of invention to switch off unused stages (buffers) according to numbers of voltage levels as shown by Tanaka et al. in the Ito apparatus in order to reduce the number of levels associated with the driving voltage

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and reduce total power consumption (See Col. 9, Lines 1-7 in the Ito reference).

Ito and Tanaka et al. do not show a multiplexibility of $m \geq R$.

Kalt teaches the multiplexibility of the liquid crystal material m is understood to mean the maximum number of rows of VGA resolution and the numbers of rows R (See Col. 11, Lines 18-24).

It would have been obvious to one of ordinary skill in the art at the time of invention to use Kalt definition of multiplexibility of in the Ito, Tanaka et al. apparatus in order to reduce the number of levels associated with the driving voltage and reduce total power consumption (See Col. 9, Lines 1-7 in the Ito reference).

As to claim 4, Kalt teaches the multiplexibility of the liquid crystal material m the **maximum number of rows** R , which can be driven and Tamai et al. teaches the optimum value p of rows to be simultaneously driven as derived from the display size that is smaller than the maximum value (See Fig. 1, items 1-2, in description See Col. 2, Lines 26-31 and Col. 4, Lines 23-25).

3. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito and Tanaka et al. as applied to claim 1 above, and further in view of Tamai et al. (US Patent no. 6,346,774 B1).

As to claim 2, Ito and Tanaka et al. do not show the optimum number p of rows to be simultaneously driven as derived from the display size.

Tamai et al. teaches the optimum number p of rows to be simultaneously driven as derived from the display size (See Fig. 1, items 1-2, in description See Col. 2, Lines 26-31 and Col. 4, Lines 23-25).

It would have been obvious to one of ordinary skill in the art at the time of invention to use Tamai et al. approach in the Ito, Tanaka et al. apparatus in order to reduce the number of levels associated with the driving voltage and reduce total power consumption (See Col. 9, Lines 1-7 in the Ito reference).

As to claim 3, Ito and Tanaka et al. do not show a sequence for the supply of the image data to be displayed from a memory is the same for all values p.

Tamai et al. teaches a sequence for the supply of the image data to be displayed from a memory is the same for all values p (See Fig. 1, items 5-6, in description See Col. 7, Lines 58-63).

It would have been obvious to one of ordinary skill in the art at the time of invention to use Tamai et al. approach in the Ito, Tanaka et al. apparatus in order to reduce the number of levels associated with the driving voltage and reduce total power consumption (See Col. 9, Lines 1-7 in the Ito reference).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

The He et al. (US Patent No. 6,323,849 B1) reference discloses display module with reduced power consumption.

The Imai et al. (US Patent No. 6,256,025 B1) reference discloses driving voltage generating circuit for matrix-type display device.

The Nishiyama et al. (US Patent No. 5,710,576) reference discloses portable electronic apparatus having partial display function.

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The Kudo et al. (US Patent No. 6,369,791 B1) reference discloses driving voltage generating circuit for matrix-type display device.

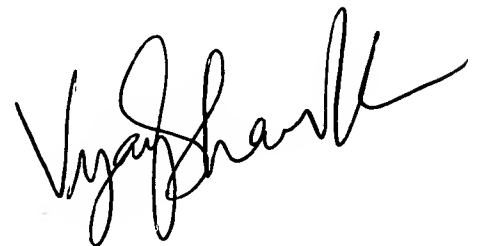
Telephone inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Is



**VIJAY SHANKAR
PRIMARY EXAMINER**